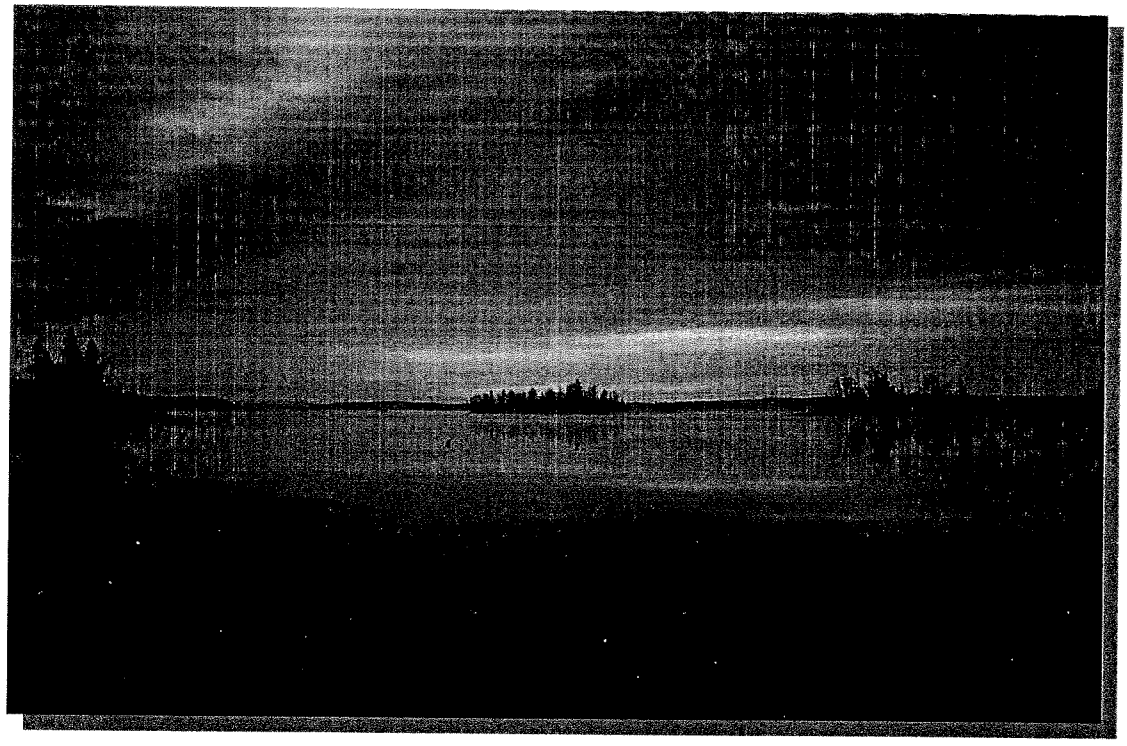
GILE FLOWAGE WATERSHED COMPREHENSIVE PLAN-PHASE I



Gile Flowage Sunrise

WISCONSIN DEPT. OF NATURAL RESOURCES
LAKE PLANNING GRANT
LPL-900-04

SUBMITTED JOINTLY BY THE
TOWN OF CAREY AND THE TOWN OF PENCE
IRON COUNTY, WISCONSIN

DECEMBER, 2004

GILE FLOWAGE WATERSHED COMPREHENSIVE PLAN-PHASE I

REPORT CONTENTS
&
DELIVERABLES

as per Lake Planning Grant Agreement

Introduction
- Map of Project Area
- Grant Activities Timeline

Environmental Inventory of the Gile Flowage Watershed

Shoreland Assessment

Base Planning Maps

Review and Assessment of Existing Land Use Regs and Plans

Survey of Gile Flowage Watershed Landowners

Gile Flowage Lake History

Plan for Sharing Project Results

A Lake Association Formed For the Flowage

Phase I Preliminary Plan

A Steering Committee Of Stakeholders

Wisconsin Department of Natural Resources
Lake Planning Grant
LPL-900-04
In partnership with the
Towns of Carey and Pence
Iron County, Wisconsin

POWER POINT PRESENATION
ON RESULTS OF
GILE FLOWAGE WATERSHED
ENVIRONMENTAL INVENTORY-PHASE 1

By
Dr. Dean Premo,
Whitewater Associates, Inc.
Amasa, MI

Presented in a public meeting

December 15, 2005 7:00 pm
Iron County Courthouse, Hurley Wisconsin

Gile Flowage Watershed Project Phase I – Environmental Information Inventory

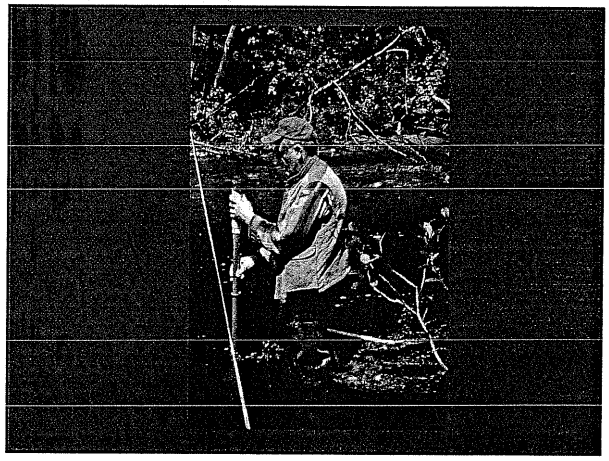
White Water Associates, Inc.
Dean Premo, Ph.D., President

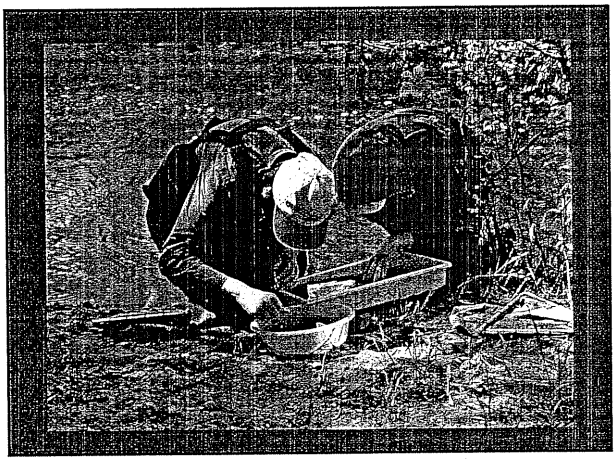
Purpose of Presentation:

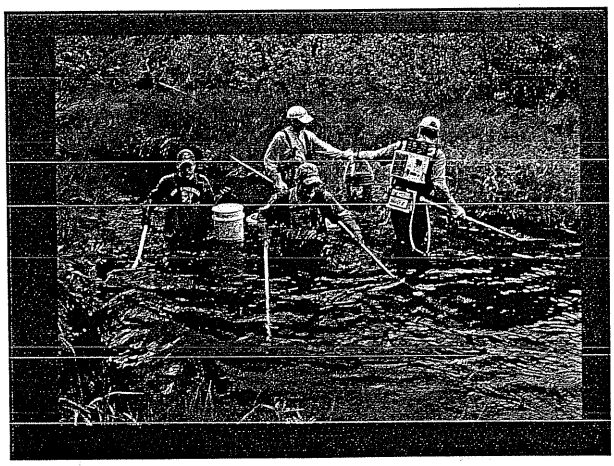
- Introduce White Water Associates
- Discuss Gile Flowage Watershed Project
- Present Phase I Environmental Information Review
- Gather Input

Who is White Water Associates?

- Environmental Laboratory and Ecological Consulting Services
- Established 1985
- Located in Western Upper Peninsula of Michigan







Gile Flowage Watershed Project

- Big picture: Watershed Scale Adaptive Management Plan
- First step: Phase I environmental information review

Our objectives for the study

- Gather and Review Existing Information
- Identify Gaps in Information
- List Important Ecosystem Features
- Cite Possible Threats to the Ecosystem
- List Priority Actions for Future Phases
- Prepare Project Report

Methods

- Assembling existing information (written and verbal)
- Reviewing information
- Visiting the Flowage
- Preparing the report

Existing Information

- Information from reconnaissance visit to flowage
- Personal communication - WDNR wildlife biologist
- Personal communication - WDNR water quality biologist
- Land use planning information - Carey and Pence
- Personal communication – Xcel Energy (Olson)
- Meeting notes – Xcel Energy meeting with citizens
- 2004 Gile Flowage Report (Spiny Water Fleas)

Continued...

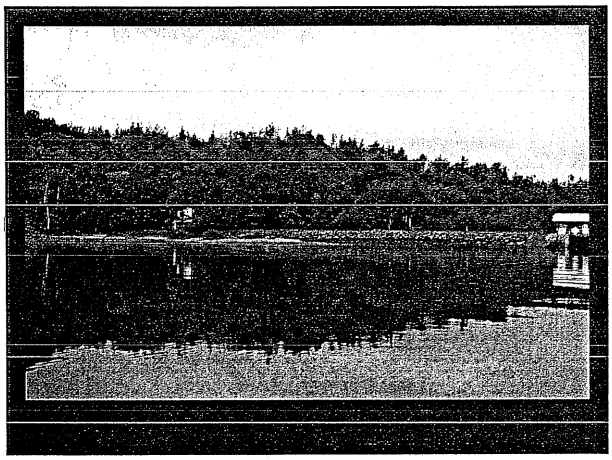
Existing Information

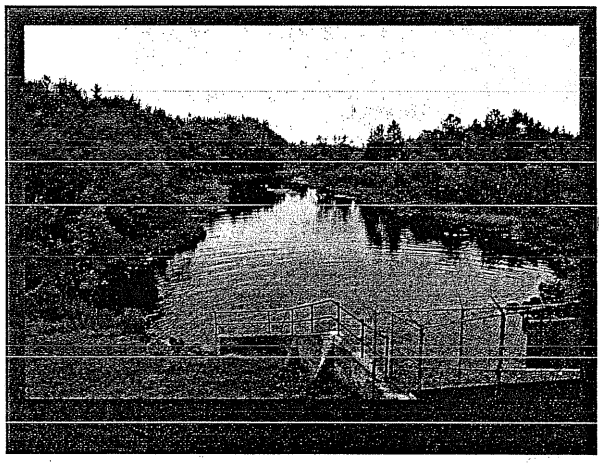
Continued...

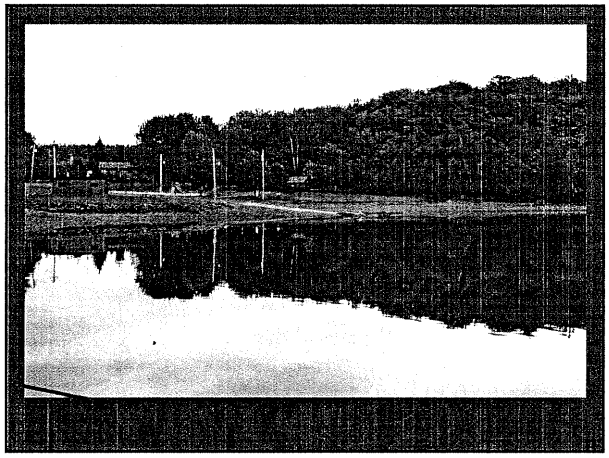
- Various fisheries survey data
- Lake Survey Summary / Fisheries Management Plan 1996
- Existing maps
- Fish consumption advisory
- Montreal River Watershed Report (WDNR)
- Documentation of the spiny waterflea
- Documentation of the 303d degraded lake status
- View From the Flowage (UWEX survey of stakeholders)

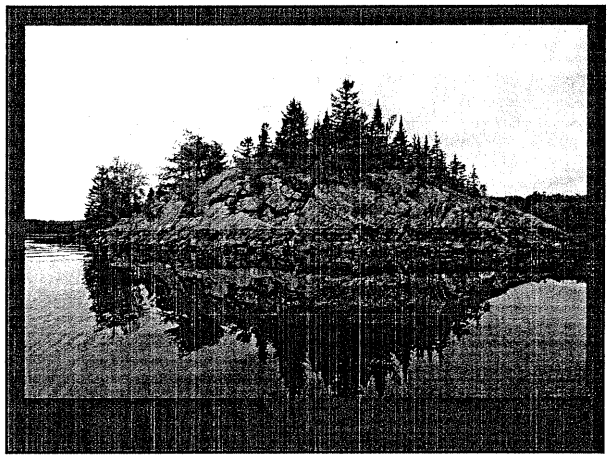
Gaps in Information

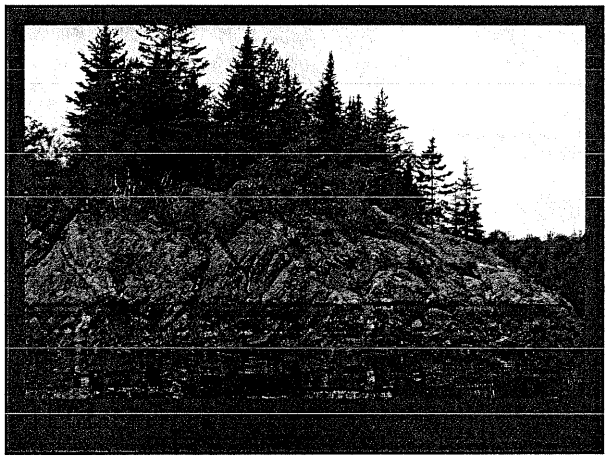
- Water and sediment chemistry data
- Biological information–invertebrates and aquatic plants
- Physical information about the Flowage – pH, DO, volume, residence time
- Water quality information on the tributaries (chemistry, biological, physical)
- No FERC studies

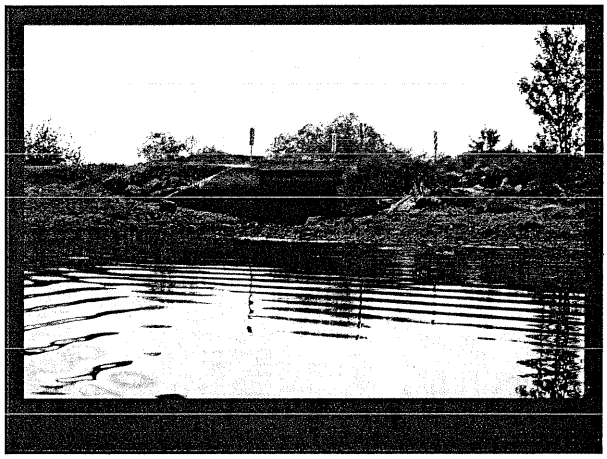


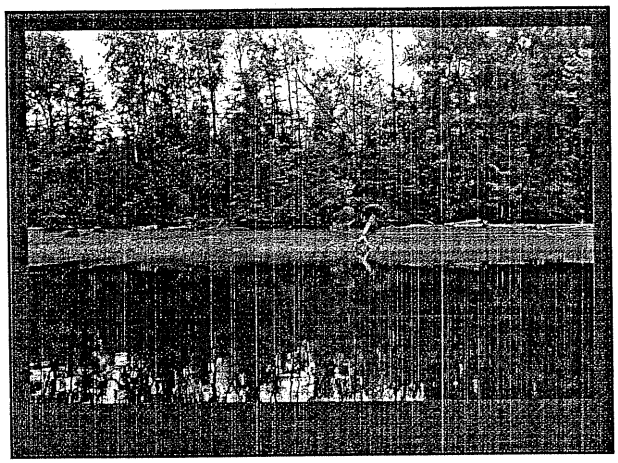


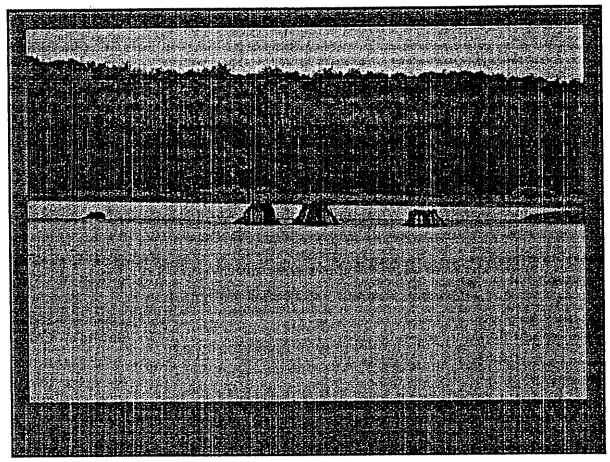


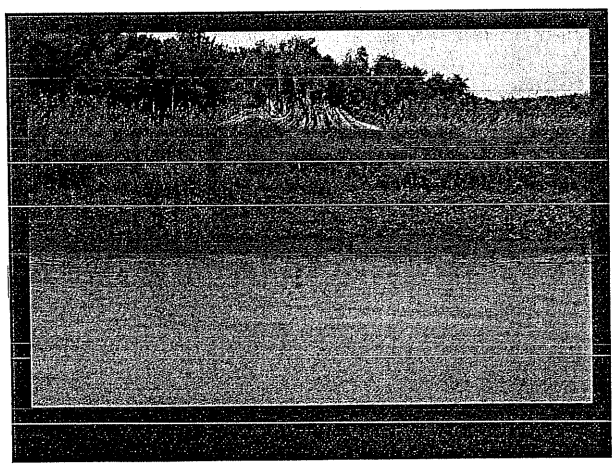


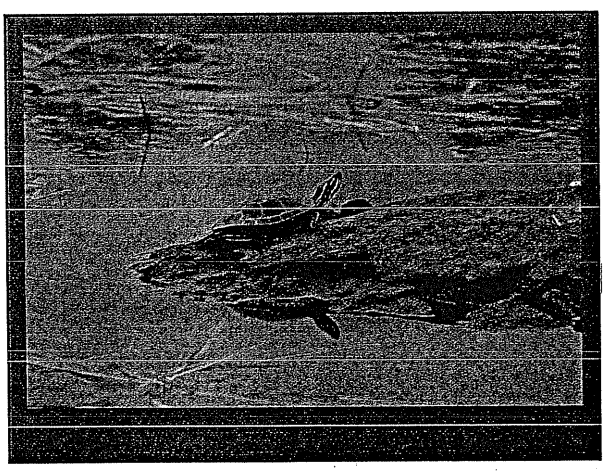


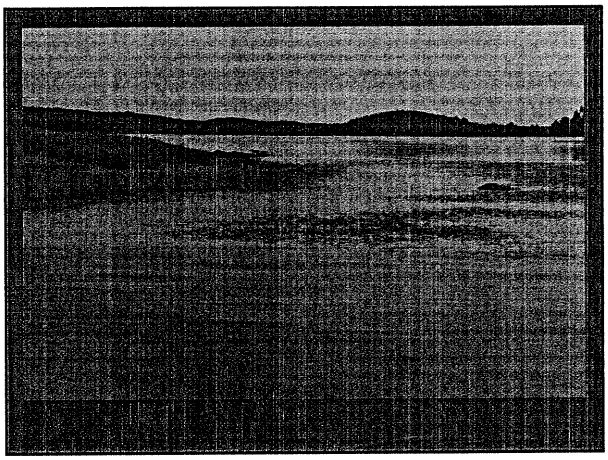






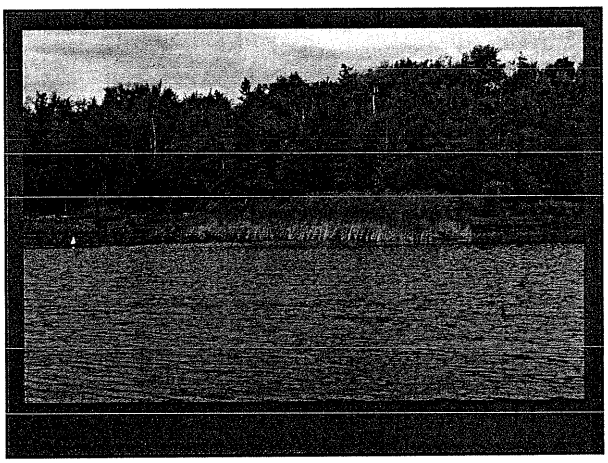






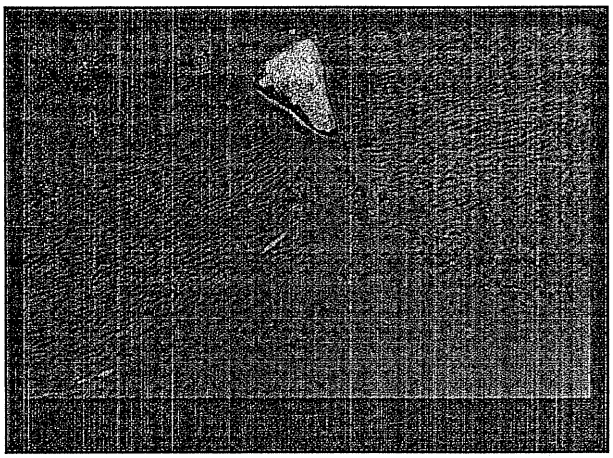
1994 Aquatic Plant Survey

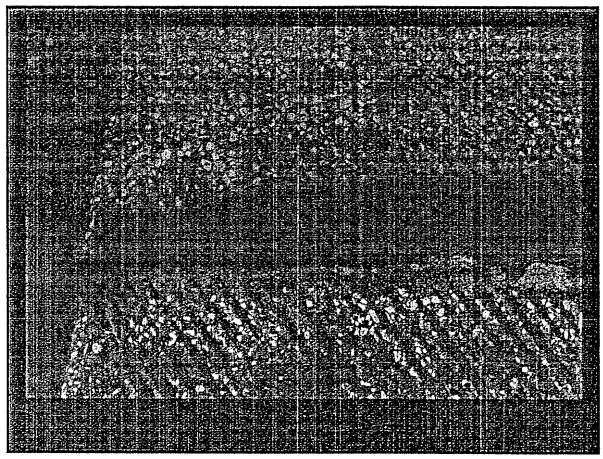
- 15% of littoral zone is vegetated
- 50% is considered "desireable"
- 24 species identified
- Low diversity
- 11 of 24 considered "fisheries valuable"
- Maximum depth of plant growth is 0.4 m

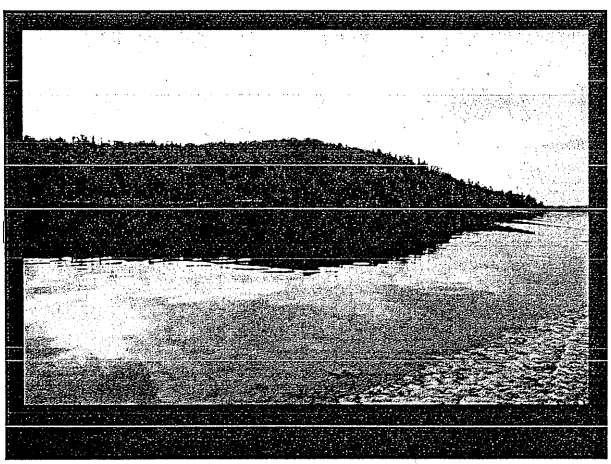


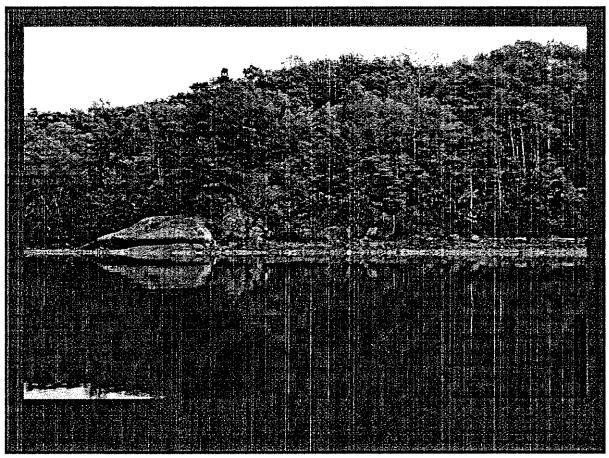
Existing Water Quality Data

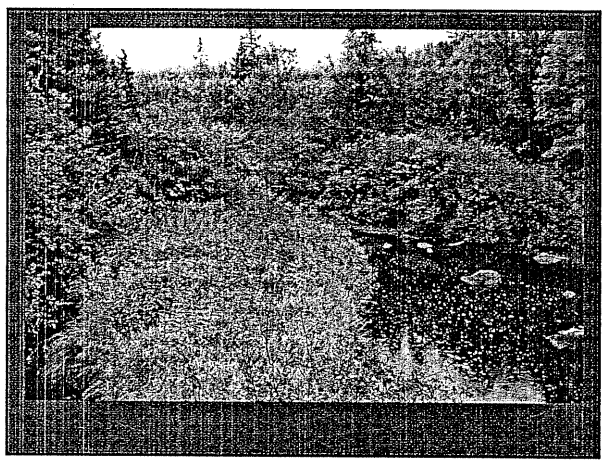
- 1994, 1995, 1997, and 2000 from WDNR
- Mesotrophic
- Moderate nutrient availability
- Moderate algae production
- Some phosphorous and nitrogen data
- Summer Secchi depth averages 5.2 ft
- Soft water (21.5 mg/L Hardness)
- pH about 7.0
- No apparent stratification

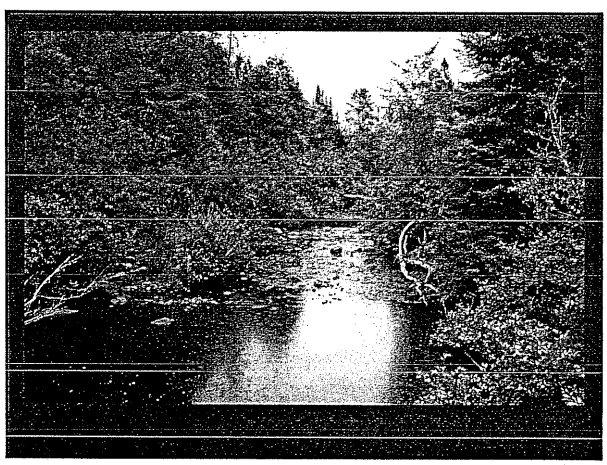


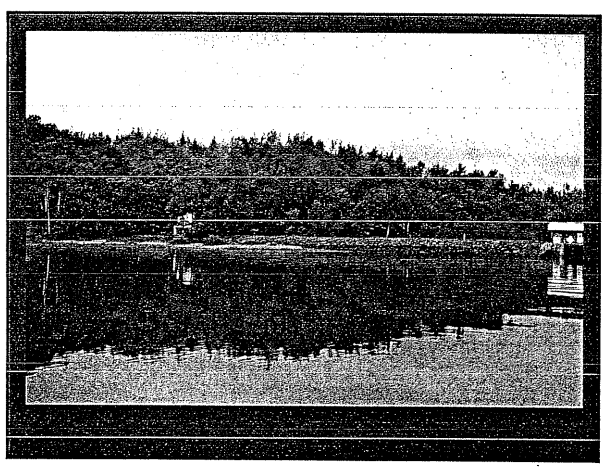












Important Ecosystem Features

- Apparently good water quality
- Islands on the Flowage
- Bald eagle nesting and use
- Common loon nesting and use
- High quality riparian area around Flowage
- Engaged & interested program participants
- Stakeholders consider the quality of Flowage a priority

Possible Threats to the Ecosystem

- Least restrictive lake classification status
- Increasing development
- Increasing recreational use
- Uncertainties over future reservoir management by Xcel
- Sale of public property on reservoir
- Water level fluctuation
- FERC jurisdiction uncertainties

Continued...

Possible Threats to the Ecosystem

Continued...

- Exotic / aggressive species (spiny water flea, Chinese mystery snail)
- Bluegreen algae blooms
- Mercury in the system
- Low diversity and density of aquatic plants
- Non-point source pollution
- Too many plans

Actions for Future Phases

- Water chemistry and physical measures – spring, summer, fall
- Aquatic vegetation survey – why few beds - substrate or water fluctuation?
- Habitat Monitoring – especially aquatic vegetation in selected areas
- Establishment of additional aquatic vegetation beds
- Feasibility of acquiring more shorelands around the Flowage

Continued...

Actions for Future Phases

Continued...

- Research necessary reduction of winter drawdowns to benefit walleye survival
- Exotic species education
- Sediment metals – especially mercury
- Monitor bluegreen algae
- Inventory areas of erosion
- Develop a management plan